

Antecedents of Growth in Higher Education Institutions of North Cyprus: Resource-Based Approach

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Abstract

This study aims to reveal the antecedents of growth in Higher Education Institutions of North Cyprus, using Resource Based Approach. Research in this field is limited to developed economies and there is a need for more research in the developing country settings. North Cyprus is a unique location for this study since it is a developing country which is geographically located in between Europe, Africa and Middle East harmonizing several different cultures in its unique settings. An explanatory research design was adopted using a questionnaire survey to collect data and test the hypotheses. Data was collected from 343 respondents, consisting of 172 administrative and 171 academic staff, in five universities which have 10 years of history in higher education sector. The results of the study showed that Marketing resources, Human resources, Research and Development resources, Organizational resources and accessibility of these resources have been shown to positively influence the university growth.

Keywords: Growth, Resource-Based View, University, North Cyprus

1. Introduction

In an economic system, higher education institutions are placed in a strategic position since they produce knowledge and train people for their designated careers. In the contemporary world, universities contribute to the development of the societies in science and technological fields. In addition to training people and producing knowledge, they have been forming close and inevitable relations with society by setting up economic and social interactions. As the key generators of economic activity, universities have an important role in a society. Therefore, the relationship between the university and the society is becoming an increasingly popular issue as they are inseparable and a focal point in the community (Perry & Wiewel, 2005, p.3).

The presence of a university has implications for economic development on the region in which it is located. Contemporary universities are large complexes that employ thousands of workers, occupy large areas of land and consume large budgets. They are more similar to a business complex, running specialized research centers and even hospitals, housing and residential accommodation, sports, catering and cultural facilities and sometimes associated with commercial ventures such as a science or a research park. Thus, as a large scale consumer of inputs such as labor, goods and services and generators of outputs such as skills, know-how and local attractiveness, the university becomes a major factor in local economic development. Even without a proactive, explicit role in promoting local economic activity, the results of its policies and decisions are likely to have large impacts on its local economy (Siegfried et al., 2007).

The main objective of this study is to reveal the resource based factors that affect the growth of the Higher Education Institutions (i.e. universities) in North Cyprus. In order to suggest a model that would help universities to grow in the North Cyprus setting, we aim to identify the growth factors pertaining to universities in North Cyprus. There is a need for more research on this topic especially in different country settings to explore the application of theories in developing country settings rather than developed economies (Wang & Lo, 2002). North Cyprus is a unique location for this study since it is a developing country which is geographically located in between Europe, Africa and Middle East harmonizing several different cultures in its unique settings.

The study aims to answer two main research questions;

- What are the resource based factors utilizing the growth of higher education institutions in North Cyprus?
- How do these factors affect the growth of higher education institutions? Can a pattern for this relationship be identified?

The paper is structured as follows; firstly, the Higher Educational Industry in North Cyprus is described, then the theoretical background of growth and Resource Based View (RBV) is provided by investigating the resources; human resources, operational resources, marketing

resources, financial resources, research & development resources, organizational resources which are contributing to the growth of higher education institutions. The methodology of study is then explained. Finally, the findings and analysis of the study is presented with key implications.

1.1 Higher Education Industry in North Cyprus

Cyprus Island is a small country situated in a very dynamic regional location on the Eastern Mediterranean. In 1974, Cyprus Island was divided into two parts. Turkish Cypriots live on the northern part of the island and therefore established their economy on the north and Greek Cypriots live on the southern part of the island and established their economy on the south (Republic of Cyprus, 1999). In 1983, Turkish Republic of Northern Cyprus (TRNC) was established in northern part, in which forms 36 percent of island (Katircioğlu, 2010).

TRNC economy carries special features of small developing island economy with its population about 286,257 (SPO, 2011) and 15,302 US \$ per capita income (SPO, 2013). Although, small island economies have special constraints that restrict their development pace, the service industry in North Cyprus has gained significance in 1980s and onwards.

Higher education sector makes one of the most important industries in North Cyprus by making significant contribution to the economy. It constitutes 40 percent of North Cyprus economy (Washington Times, 2014). By the 1990s, there has been a significant growth in the demand for higher education (Katircioğlu, 2010). The initial demand came from students in Turkey and then from students in different countries such as Africa and Middle East. Currently, there are 11 universities operating in North Cyprus with a total number of 63,765 students of which 34,206 are from Turkey, 12,505 are from Northern Cyprus, and 17,054 are from other 114 countries (Katircioğlu, 2010; Washington Times, 2014).

Consistent with the purpose of this study, the research is conducted with academic and administrative staff of five local universities which have minimum 10 years of history in higher education sector of North Cyprus; namely Eastern Mediterranean University (EMU), Near East University (NEU), European University of Lefke (EUL), Girne American University (GAU) and Cyprus International University (CIU).

2. Growth

The theories and models that are potentially helpful for explaining firm growth include industrial organization economics, evolutionary theories, and business strategy models (Bhide, 2000). Most studies on firm growth, particularly those published recently, have focused on the factors influencing firm growth. Various factors have been hypothesized and/or empirically tested as directly and/or indirectly influencing firm growth. These include individual-level factors such as founder's education, experience, and growth aspiration (Wiklund & Shepherd, 2003); organization-level factors such as firm-level resources (Bruton & Rubanik, 2002; Mishina et al., 2004) and strategies (Baum et al., 2001; Thornhill, 2006); and macro-level factors such as market/environment conditions (Park & Bae, 2004; Robinson

& McDougall, 2001) and economic policy (Riding & Haines, 2001).

Studies on growth have made important contributions to theory development and management practice. However, the antecedents considered in these studies are so diverse that there is little agreement on the finite and definitive set of factors affecting firm growth (Delmar et al., 2013).

Several researchers have made various classifications of determinants of firm growth (Smallbone & Massey, 2012). For Example, Gibb and Davies (1990) explained that firm growth can be categorized as growth approaches as personality dominated approaches, organization development approaches, business management approaches, and sectoral and broader market led approaches. O'Farrell and Hitchens (1988) suggested four main theories for firm growth; the industrial economics approach, the stochastic model, the stage models and strategic management perspective. Finally, Storey (1994), argued that the characteristics of the owner/manager, firm characteristics and managerial activities are the key factors that affect the growth of a firm.

Having different determinants for firm growth is partly because of the way growth has been conceptualized and operationalized. Varying ways, such as relative/absolute growth or sales/employment/asset/profit growth; over varying time spans (e.g., one, three, or five years) have been used to conceptualize and measure firm growth (Delmar et al., 2013; Wiklund & Shepherd, 2005). Researchers have found limited concurrent validity among different growth measures (Wiklund & Shepherd, 2005) and discovered that using different growth measures yields contradictory conclusions (Davidsson & Wiklund, 2000). Therefore, it may not always be possible to compare and integrate findings from different studies (Wiklund, 1999; Wiklund & Shepherd, 2005).

The current study aims to extend Penrose's (1959) theory of firm growth by looking into the growth process, and by identifying key mechanisms of firm growth. In so doing, it is important to acknowledge Penrose's original theoretical positions, which is known as Resource-Based view of the firm (in particular, the firm as a resource system).

3. Resource-Based View

Resource Based View (RBV) is the most significant framework for understanding strategic management (Barney et al., 2001; Carmeli & Tishler, 2004a; Dhanaraj & Beamish, 2004; Khatri, 2000). The RBV of the firm overcomes the bias in the mainstream strategic management literature by stressing the importance of firm-specific resources that can provide competitive advantage to an organization on a sustainable basis (Khatri, 2000, p. 337).

According to Dhanaraj and Bheamish (2004), RBV focuses on the main issue of how outstanding performance can be obtained in comparison to other businesses operating in the same market, and assumes that outstanding performance results from obtaining and exploiting unique resources of the business. With the combination of use of practices, techniques, firms' specific capabilities and assets, firms have the RBV has made it possible

for them to compete and obtain sustained competitive advantage (McWilliams & Siegel, 2011; Penrose, 1959; Teng, 2007). Hart & Dowell (2011) supports the above by arguing that RBV's focus is on factors internal to the firm that in return leads to sustained competitive advantage. The RBV focused mainly on firm's own decisions and capabilities instead of its environment (Hart & Dowell, 2011; Hoskisson et al., 1999). Based on the RBV of the firm, in order to innovate, keep up with the changing market environment, and therefore achieve competitive advantage, a business needs to develop, incorporate and reconfigure its skills, capabilities and abilities (Lisboa et al., 2011).

Although the number of empirically tested studies on RBV has been increasing, it has been argued that more empirical research is needed to identify the multidimensionality of performance to also estimate the influence of a collection of resources on the performance of firms from different industries (Carmeli & Tishler, 2004a).

Penrose (1959) defined a firm as "a collection of physical and human resources" and pointed to the heterogeneity of these resources (Dhanaraj & Beamish, 2004, p. 9). Another definition provided to resource is "anything that can be thought of as a strength or weakness" of the firm (Dhanaraj & Beamish, 2004, p. 172). Furthermore, Khatri (2000, p. 337) referred to various definitions of resources based on different researchers; one definition presented is 'anything that could be thought of as strength or weakness of a given firm which include tangible and intangible assets' (Wernerfelt, 1984), another definition is resources are 'skills, organizational routines and processes' (Barney, 1991). Hart & Dowell (2011, p. 1465) state that 'a resource is something that a firm possesses, which can include physical and financial assets as well as employees' skills and organizational (social) processes. RBV proposed that to gain sustainable competitive advantage, a resource must be valuable, rare, and not imitable supported by tacit skills or socially complex organizational processes and imperfectly non-substitutable (Barney, 1991).

Studies conducted on RBV of the firm grouped resources into different categories as financial, physical, human capital and organizational (Power & Dougall, 2005).

3.1 Accessibility of Resources

The availability of resources in terms of quantity and quality is extremely important on the firm's behavior because these resources are needed for the organizational processes (Grant, 1991). Chandler & Hanks (1994) emphasize importance of availability of resource-based capabilities for ventures' survival and growth.

The quality and quantity of resources available to the firm inevitably affect its growth rate (Covin & Slevin, 1997; Gibb & Davies, 1990). Especially having access to financial resources is crucial. Financial resources provide access to other types of resources (Wiklund & Shepherd, 2003b). However, not all resources are financial. There are managerial resources as well. The managerial resources are mainly time and knowledge about the management and growth of firms. The firm may also suffer from absence of these managerial resources (Gibb & Davies, 1990).

The firm should have access to valuable, rare and inimitable resources. It should also have the ability to develop a strategy to align these resources with opportunities (Barney, 1991; Chrisman et al., 1999). According to Chrisman et al. (1999) having access to resources is an intangible asset and it is an important contributor to new venture success. The intangible assets that the manager should have access to, are capital markets, distribution channels, labor markets, suppliers and raw materials (Chrisman et al., 1999).

In literature, the availability of especially financial resources is found to be related to firm growth (Brown, 1996; Covin & Slevin, 1991; Surroca et al., 2010). If there are a variety of resources available to the firm, then the firm can apply the desired strategies (Brown, 1996). The availability of financial, physical and human resources is proposed to enhance strategies such as innovation (Galende & De la Fuente, 2003; Miller & Friesen, 1982). Depending on the firm's resources, the type of strategy will differ. In order to gain competitive advantage, firms have to employ strategies and these strategies are affected by the resource availability (Chan et al., 2004; Lumpkin & Dess, 2001). Therefore, resource availability indirectly affects the growth of the firms.

There are various set of items that are used to measure resource-based competencies of businesses, including financial resources, human resources, organizational resources and technological resources (Chandler & Hanks, 1994; Greene et al., 1997). Those businesses that mobilize more resources tend to be more successful (Castrogiovanni, 1991; Chandler & Hanks, 1994). Edelman et al.'s (2005) paper referred to Greene & Brown's (1997) study arguing that "each combination of growth and innovation requires different resource combinations such as human, social, physical, financial or organizational" (p. 363). A firm's growth is dependent on the manager's or managerial team's ability to coordinate resources, and growth happens when manager's expectation of the firm and the firm having access to the suitable resources interacts (Edelman et al., 2005; Penrose, 1959). Therefore, we expect:

H₁: The accessibility of resources has significant positive impact on the growth of higher education institution.

3.2 Human Resources

Human resources (henceforth HR) of an organization are considered as a strategic resource by resource-based view (Carmeli & Tishler, 2004b). The human resources are important for the organization because they are valuable, rare, and inimitable and have no substitutes (Khatri, 2000). To be successful, the small firm has to build capabilities to attract and retain quality employees (Barringer et al., 2005; Lussier & Pfeifer, 2001). The HR system can help an organization become more effective and gain competitive advantage (Becker & Huselid, 1998; Bowen & Ostroff, 2004). Research shows that human resources management capabilities are influential on the success of firms (Buller & Mc Evoy, 2012; Lussier & Pfeifer, 2001). This influence like other capabilities can be direct or through strategy (Jackson et al., 2014; Khatri, 2000; Schuler & Jackson, 1987).

Human Resource function deals with recruitment & selection, orientation, training &

development, compensation, appraisal and career management of staff in the organization (Barney et al., 2001; De Kok et.al, 2006; Dessler, 2015; Snell & Bohlander, 2013). Resources of human capital include the training, experience, judgement, intelligence, relationships, and insights of staff in a business (Barney 1991; Ployhart & Moliterno, 2011). They are the most important type of capital while other types are of lesser importance (Greene & Brown, 1997). Thus:

H₂: The human resources have significant positive impact on the growth of higher education institution.

3.3 Operational Resources

According to Ward et al. (1995, p. 6-7), there are four dimensions in operations strategy; the familiar competitive priorities of low cost, quality, flexibility, and delivery performance. O'Regan & Ghobadian (2004) considered the followings as production capabilities of the small firm: distribute products broadly, deliver a broad range of products, respond to fluctuates in volume, make rapid design changes, provide after sales service, deliver products quickly, provide high performance products, deliver products on time and offer consistent quality. Acar (1993) analyzed the effects of production competencies that are site and building quality, engineering and design, technology, quality assurance, purchasing, repair and maintenance and inventory management on performance among small firms. In general, regardless of the firm size production flexibility, production quality, production cost, delivery and purchasing are the components of production capabilities (Birley & Westhead, 1990; White, 1996).

Manufacturing flexibility deals with the ability to react to environmental changes with less time and cost (Upton, 1994). Flexibility dimension focuses on shortening the new product introduction cycle, reducing manufacturing and procurement lead-time, and reducing the time required to change products in the manufacturing process (Ward et al., 1995). In this paper, we are concerned with the new product flexibility which refers to the ability to develop and introduce new products quickly and successfully to the market (Chang et al., 2003).

Some researchers argued that flexibility affects business performance in a positive way (Oke, 2013; Patel et al., 2012). In these studies, the authors found a positive effect of product mix and new product flexibility on sales growth and net profit rate, and they also reported that firms that offered different products were able to expand their market share.

Low cost variable is concerned with reducing production cost (unit & material costs), reducing inventory level, increasing equipment and capacity utilization for low cost production (Chaganti & Chaganti, 1983; Ward et al., 1995).

Ward et al. (1995, p. 9) measure a manufacturing quality variable by degree of emphasis on activities to reduce defect rates, improve vendor quality, improve product performance and reliability, or activities related to achieving an international quality standard, ISO 9000 (The university lecturers delivers good quality programs/lectures).

Purchasing comprises the ability of the organization to find suppliers and have good relations with suppliers (Brush, 2001). In purchasing capability of the firm, the quantity and quality of the suppliers are considered. The impact of organization on the prices of the suppliers is also important for the firm. In addition, relationships between the firm and suppliers are essential components of purchasing capability (Acar, 1993). Therefore, we formulated following hypothesis:

H₃: The operational resources have significant positive impact on the growth of higher education institution.

3.4 Marketing Resources

When considering the marketing resources, market research, pricing and promotion need to be taken into account. Market Research variable is concerned with conducting research on the needs and desires of current and potential customers on regular basis (Barkham et al., 1996; Siu et al., 2004). Market research involves planning, collecting, and evaluating customer related information when making decisions (Aaker et al., 2004; Javalgi et al. 2006). It is very important in the sense that market research generates the data for market orientation development and implementation in which it can improve CRM (Customer Relationship Management), it has become more important with increasing globalization as the organizations needs to better utilize approaches to be aware of different customer segments worldwide (Javalgi et al., 2006). Successful companies use marketing research in their planning activities more effectively (Schlegelmilch et al., 1985). Self-generated market research impacts on company performance (Brooksbank et al., 1992; Siu et al., 2004).

Price forms the foundation of competitive advantage, is an element of marketing strategy, and pricing strategy has a strong impact on the retailer's ability to create the desired rate of return on net worth and ability to attract to target customers effectively (Radder, 1996). According to O'Regan et al. (2006), price is an important competitive factor for high growth businesses.

Promotion is an important capability for many firms (Vorhies & Harker, 2000), it includes advertising, sales promotion and personnel selling activities for the business to communicate with the market and sell its products. According to Acar (1993), advertising and promotion includes the type, mix, and cost-effectiveness of advertising and promotion activities. An implicit marketing firm adopts various several proactive promotion methods such as determining its price according to the market, and what the competitors charge, and stay in close contact with customers to make sure that its product/ service is satisfying customer, and encourage repeat business through after-sales (Carson & Cromie, 1990). Furthermore, it is argued that the development of an organizational website is one of the most valuable elements of e-commerce that businesses can implement as part of their promotional activities (Hormozi et al., 1998; O'Regan et al., 2006). Thus, we expect:

H₄: The marketing resources have significant positive impact on the growth of higher education institution.

3.5 Financial Resources

From a resource-based perspective, not all financial resources provide sustainable competitive advantage because most of the financial resources can be easily obtained from the external environment and can easily be imitated (Lee et al., 2001). However, financial resources are still extremely important for survival (Barkham et al., 1996; Storey, 1994).

Among financial capabilities of the firm, the most common point for consideration is the search and use of external financing (Barkham et al. 1996; Hennessy & Whited, 2007). Firms that search and use external sources of finance is expected to grow more and faster (Birley & Westhead, 1990). In order to grow, the firm has to invest. In a firm, investment funds come from two sources; internal sources and external agencies. Internally raised capital is limited and profit rising within the existing organization will take time to accumulate. Thus, the management of the firm can miss a good opportunity in the market. On the other hand, debt or equity can be a source of fund for the firm, but most of the firm owner/managers are reluctant to use such external financial instruments to finance growth (Barkham et al., 1996; Storey, 1994). Financial resources should be evaluated through considering internal sources of finance (Abor, 2005) and external sources of finance (Myers & Majluf, 1984; Nishihara & Shibata, 2013).

H₅: The financial resources have significant positive impact on the growth of higher education institution.

3.6 Research & Development Resources

Research and development (henceforth R&D) is believed to be the most important determinant of innovation (Caloghirou et al., 2004). R&D has the dimensions of improving and/or developing products and production methods. R&D capabilities are important for the firms because they enable the firm to create innovative products and compete in the market (Siegel, et al., 1993). R&D capabilities help the firm to create unique value to customer (Barringer et al., 2005). When describing R&D intensive organizations, the concepts such as “high tech”, “R&D intensive” and “innovative” are interchangeably used, and that R&D intensity refers to the extent to which financial and human resources are dedicated to R&D (Milkovich et al., 1991).

Technological competence is a dimension of R&D which is extremely important for organizations in competitive environments. Companies that are successful are more likely to modify their production technology and product mix regularly in response to the development in the industry and changing customer needs, and these type of companies are better at drawing extra financial resources (Steiner & Solam, 1988).

According to other authors R&D intensive organizations carry the following attributes such as emphasizing inventions and innovations in their business strategies, and using certain percentage of their financial resources to R&D (Balkin & Gomez -Mejia, 1987; Kleingartner & Anderson, 1987; Milkovich et al., 1991). Acs and Audretsch (1988) consider R&D

expenditures contribute to the innovation process.

Technological capabilities can easily provide sustainable advantage to a firm because they are mostly protected by patents which make them rare, valuable and difficult to imitate (Lee et al., 2001). Technology is an important capability for the small organizations. Utilization of new and advanced technology is considered as a vital contributor to small firm growth (Siegel et al., 1993). Being open to new technologies is proposed to provide superior performance for small firms. This impact on performance can be direct or through strategy (Gibbons & O'Connor, 2003). Therefore:

H₆: The research & development resources have significant positive impact on the growth of higher education institution.

3.7 Organizational Resources

Organizational resources refer to the resources that are attributes of the organization itself, that is, the collections of individuals associated with a firm (Barney & Arikan, 2002). Organizational resources are mainly internal information-based resources (Itami, 1987). When studying the organizational resources, the entrepreneurial culture and the structure of the organization needs to be taken into account.

Entrepreneurial Culture is defined as the extent to which the employees are encouraged to take risks, search for opportunities and learn from their mistakes (Brown et al., 2001; McGrath & MacMillan, 2000). Similarly, Fayolle et al. (2010, p. 713) refers to Drucker's (1985) definition of entrepreneurial "as a climate that encourages idea generation, experimentation and creativity, and these factors are the main elements in opportunity recognition dynamics" (Drucker, 1985). An organization that follows an entrepreneurial culture encourages ideas, experimentation and creativity from organizational members in which new ideas are valued and sought out and an opportunity for innovation arises (Brown et al., 2001; Ireland et al., 2003; Covin & Slevin, 2002). Firms with an entrepreneurial culture tend to be more profitable (Barney, 1986; Kor & Mahoney, 2004).

Structure refers to the extent to which the structure is organic; flat, with multiple informal networks (Brown et al., 2001). This type of an organization is designed to be flexible, an environment is created for employees to create and pursue opportunity, and collaboration of employees to share knowledge is encouraged (Brown et al., 2001). In an organic knowledge based structure, multi-talented individuals perform different type of tasks, and in the flat organization, team-based activities are common and horizontal collaboration is encouraged with less rules (Ramezan, 2011).

H₇: The organizational resources have significant positive impact on the growth of higher education institution.

In line with the arguments outlined above, our theoretical model is developed as shown on Figure 1.

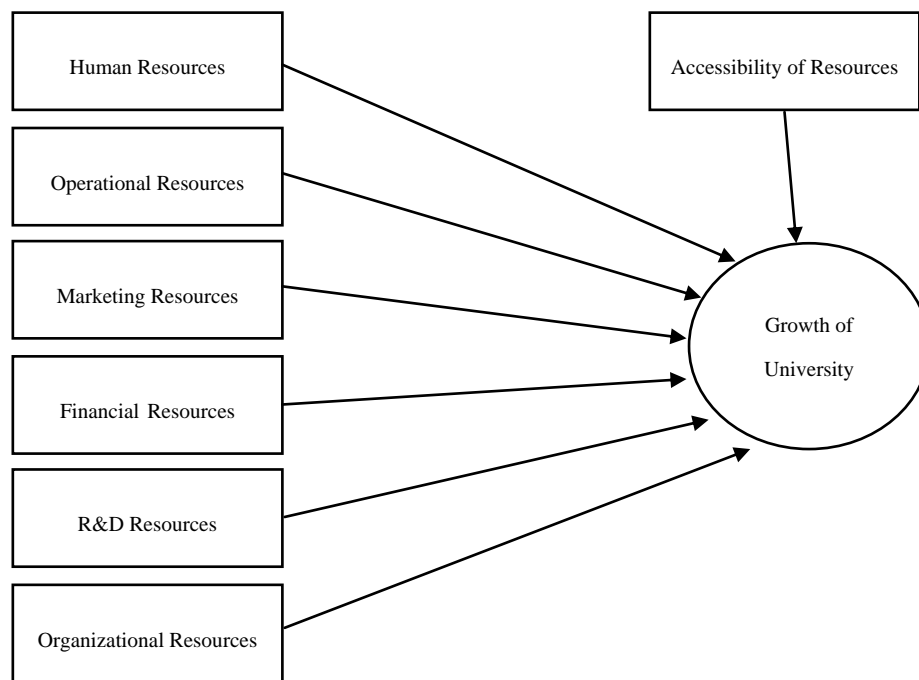


Figure 1. Theoretical model of the study

4. Methodology

We conducted a quantitative research design and adopted explanatory research by using a questionnaire survey to collect data and test the hypotheses.

4.1 Operationalization of the Variables

In Table 1, the dimensions of resources used in this study and their definitions are given. The sources of these dimensions are also provided.

Table 1. Variables of the study

Variable	Operational Definition	Source
Independent Variables		
Accessibility of Resources		
Access to finance	Having access to internal or external capital.	Barkham et al. (1996)
Accessibility of human resources	The presence of supply of labor in the market in terms of cost and quality.	Kok et al. (2003)
Accessibility of physical resources	The presence of raw materials in the market in terms of cost and quality.	Chandler & Hanks (1994)
Accessibility of organizational resources	Having access to marketing, finance, management, legal issues, and technical knowledge.	Chandler & Hanks (1994)

Accessibility of technological resources	The availability of machinery or up-to-date physical facilities in terms of costs and quality.	Chandler & Hanks (1994)
Human Resources		
Recruitment	Use of several sources to attract employees.	Kok et al. (2003)
Selection	Use of job analysis information, different selection techniques and having selection criteria.	Kok et al. (2003)
Orientation	Whether or not the orientation is provided by coworkers or the employer.	Cardon & Stevens (2004)
Training	Types and content of training provided to employees.	Cardon & Stevens (2004)
Compensation	Offering competitive wage, incentives and performance related pay to employees.	Kok et al. (2003)
Appraisal	Conducts formalized appraisal, communicates evaluation criteria and provides feedback.	Kok et al. (2003)
Career management	Ability to maintain the workforce and provide career opportunities in the future.	Kickul (2001)
Operational Resources		
Flexibility	The ability to vary the mix of products.	Chang et al. (2003)
Low cost	Reducing production costs (unit & material costs)	Ward et al. (1995)
Quality	The ability to improve product performance and reliability.	O'Regan et al. (2006); Siu et al.(2004), Ward et al. (1995)
Purchasing	The ability to find suppliers and have good relations with suppliers.	Brush (2001)
Marketing Resources		
Importance of marketing	Overall company approach to marketing.	Siu et al. (2004)
Pricing	Using competitive pricing to achieve strategic objectives.	O'Regan et al. (2006)
Promotion	Activities that are used by the firm to communicate with the market and sell the product	O'Regan et al. (2006)
Market research	Conducting research on needs and desires of current and potential customers on regular basis.	Siu et al. (2004)
Financial Resources		
Internal sources of finance	The strength of internal financial situation.	Barkham et al. (1996)
External financing	Search and use of external finance.	Barkham et al. (1996)

R&D Resources		
Technological competence	Development and use of innovative technology.	Wheelen & Hunger (2000)
R&D intensity	The organizations spending on R&D.	Wheelen & Hunger (2000)
R&D capability	The quality and quantity of R&D personnel.	Atuahene-Gima (1993)
Organizational Resources		
Entrepreneurial Culture	The extent to which the employees are encouraged to take risks, search for opportunities and learn from their mistakes.	Brown et al. (2001)
Structure	The extent to which the structure is organic; flat, with multiple informal networks.	Brown et al. (2001)
Dependent Variable		
Growth		
Sales Growth	% increase in number of students enrolled	Barkham et al. (1996)

4.2 Sampling and Data Collection

Data for this study were collected from a sample of 5 local universities operating in higher education sector of North Cyprus. These five universities represent 45% of total number of local universities which are currently operating in North Cyprus. The rationale for choosing these five universities is their minimum 10 years of history in higher education sector. A structured questionnaire was developed in order to investigate the factors related to growth of university. Data was collected through personal face to face interviews. The questionnaire was conducted to both academic and administrative staff of universities. In total, the questionnaire was applied to 343 persons in these five universities; consists of 172 administrative and 171 academic staff. The characteristics of the sample are provided on Table 2.

Table 2. Descriptive Statistics of Sample

	Frequency	Percent
University		
1	68	19.8
2	70	20.4
3	69	20.1
4	70	20.4
5	66	19.2
Total	343	100.0
Position of Person		
Administrative	172	50.9
Academic	171	50.1
Total	343	100.0

Seniority of Person		
Less than 1 year	54	15.7
1-3 years	104	30.3
4-6 years	85	24.8
7-9 years	41	12.0
More than 10 years	59	17.2
Total	343	100.0
Years of University in Sector		
15-19 years	69	20.1
More than 20 years	274	79.9
Total	343	100.0

4.3 Data Analysis

The collected data was initially analyzed by reliability and factor analysis. The internal consistency of a scale is measured by the Cronbach Alpha reliability analysis. Factor analysis is conducted in order to eliminate the items with low reliabilities. The test results for both reliability and factor analysis are given on Table 3.

Table 3. Reliability and Validity Test of the study

Questionnaire Items	Measures	Factor Loadings	Cronbach's Alpha
Accessibility of Resources			0.849
B1	Access to Finance	0.749	
B2	Access to Human Resources	0.800	
B3	Access to Physical Resources	0.826	
B4	Access to Organizational Resources	0.811	
B5	Access to Technological Resources	0.765	
Operational Resources			0.814
F1	Flexibility	0.834	
F2	Low cost	0.698	
F3	Quality	0.845	
F4	Purchasing	0.830	
Marketing Resources			0.743
F5	Market Research	0.774	
F6	Pricing	0.592	
F7	Importance of Marketing	0.835	
F8	Promotion	0.801	
Financial Resources			0.745
F9	Internal Finance	0.893	
F10	External Finance	0.893	
R&D Resources			0.855
F11	Technological Competence	0.845	

F12	R&D Intensity	0.906
F13	R&D Capability	0.890
Human Resources		0.813
F14	Recruitment	0.595
F15	Selection	0.685
F16	Training	0.834
F17	Orientation	0.760
F18	Compensation	0.677
F19	Performance Appraisal	0.759
F20	Career Management	0.804
Organizational Resources		0.745
F21	Entrepreneurial Culture	0.803
F22	Organic Structure	0.803

5. Findings

Besides from the analyses of proposed research model, the main aim of this research is to find the determinants of growth in higher education institutions. Therefore, multiple regression analyses are conducted for each independent variable and growth as the dependent variable. A summary of findings of direct effects of independent variables on university growth can be found on Table 4.

Table 4. Multiple Regression Coefficients of the study

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficient		
	B	Std. Error	Beta		
Accessibility of Resources	1.059	.399	.172	2.656	.008
Operational Resources	.221	.500	.036	.442	.659
Marketing Resources	2.914	.480	.448	6.074	.000
Financial Resources	.219	.385	.038	.569	.570
R&D Resources	1.072	.427	.195	2.511	.013
Human Resources	1.986	.490	.288	4.052	.000
Organizational Resources	.908	.327	.151	2.780	.006
R²	.203				
F	12.172				
Sig.	.000				

When regression analyses were conducted for all of the resources scale, in order to find out their impact on the growth only five significant results were obtained ($R^2=0.203$, $F=12.172$, $p=0.000$). These five results in fact explain 20% of growth. Marketing resources had the highest and positive contribution to growth of universities with $\beta=0.448$. Human resources had a slightly lower positive contribution ($\beta=0.288$). R&D resources ($\beta=0.195$) and accessibility of resources ($\beta=0.172$) had lower and positive contribution to growth of

universities. Organizational resources had the lowest positive contribution to growth ($\beta=0.151$). Both operational and financial resources had not shown any contribution to the growth of universities in North Cyprus. *Therefore, hypotheses 1, 2, 4, 6 and 7 are accepted, but hypotheses 3 and 5 are rejected.* A summary of findings is also illustrated on Figure 2.

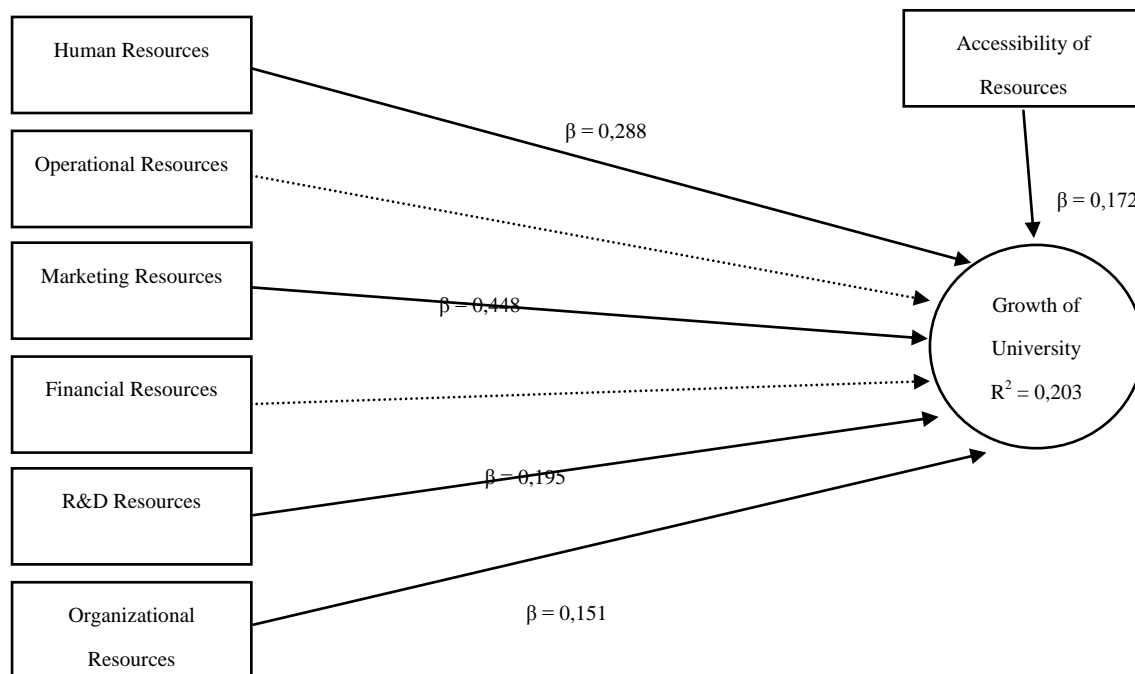


Figure 2. Findings of the study

6. Discussions

The impact of firm resources and capabilities on firm performance has been intensively studied in marketing and management (Krasnikov & Jayachandran 2008; Newbert 2007). Resource theory researchers have demonstrated that firm resources and capabilities exert influence on a firm's intermediate and ultimate performance. In general, when a firm has a superior resource base, it will be more likely to outperform its competitors because those resources enable the firm to gain better advantages in technological, marketing and operational activities, which in turn bring competitive advantages. Similarly, when a firm has built better capabilities (the ability to deploy firm resources), it has a stronger potential to optimize its activities for serving its stakeholders, including customers and shareholders (Dutta et al., 1999; Makadok, 2001; Vorhies et al., 2009).

The results of our model prove that selected resources are important antecedents of university growth. Among all the resources, marketing has the highest contribution to the growth. The marketing capability will significantly interact with other functional capabilities and therefore help realize high performance. For example, a university's innovative activities will gain the most from marketing capability in their contribution to overall performance. This view is supported by Krasnikov & Jayachandran (2008) in a meta-analysis in which they compare the

impacts of marketing, R&D and operations capabilities and find marketing capability is more important in determining firm performance. These findings help explain marketing capability's superior importance in interacting with other resources and capabilities (Dutta et al., 1999). Krasnikov & Jayachandran (2008) suggest that marketing capability, compared to other firm strategic capabilities, is more difficult for rivals to imitate because it is more embedded in firm processes. The underlying reason is that marketing capability is based on knowledge about the market and a firm's experience in dealing with customer needs and competitor actions (Day, 1994). As a result, marketing capability integrates a firm's overall strategies, image and reputation. Therefore, marketing capability is especially important because it represents one of a firm's most critical drivers in gaining competitive advantage.

In addition to that, the success of a university depends on the quality of its human resources and the acceptance that human resource management is the heart of any successful educational administration. Human resource has a strategic importance on the success of a university. It is impossible to make maximal use of material resources if the university lacks qualified, enthusiastic employees who have the stamina to perform their jobs. The human resource transforms material resources into goods and services, and the quality of this transformation depends on a combination of knowledge, skill and attitude. By the growing understanding about human who is the most important capital of an organization due to her/his ability to convert existing sources to products and services, Human Resource Management has started to gain importance. Fundamentally, the Human Resource Management aims to improve the contribution of the strategic partner 'human' to the organization by each of its functions called Human Resource Functions.

Our research has also confirmed that university's R&D investments or capabilities improve its growth. The fundamental reason is that a university committed to R&D engages in building technological ability and facilitating innovations, designing superior programs, and improving efficiency for the whole operation process. Therefore, R&D is a value-creation driver which strongly boosts university's performance. Some other studies show that R&D, as a foundation of firm operations, not only improves firm performance, but also augments a firm's market value and superior stock returns on financial markets (Mizik & Jacobson 2003). Furthermore, arguing that R&D is capable of creating intangible assets for a firm as well as assuring its investors. McAlister et al. (2007) find that R&D is has the ability to consistently reduce a firm's systematic risk, insulating the firm against the volatility of market downturns.

Every university has its own unique culture. However, an organization's particular type of culture had a significant influence on its short- and long-range performance. Entrepreneurial Orientation (EO) has emerged as an important construct used to describe the entrepreneurial posture or entrepreneurial activity level within organizations. Often conceptualized as an attribute of the firm, EO is in fact a psychological measure of individual EO (Krauss et al., 2005). It is associated with a propensity for managers to act innovatively, proactively, and undertake projects with greater risk. The accelerating rate of technology change, modern globalization, and increased competition lead researchers to anticipate that higher levels of

EO will lead managers to better recognize and exploit emerging opportunities to create strategic advantage and ultimately achieve greater performance (Pett & Wolff, 2007).

Fundamentally, EO relates to a set of attitudes and beliefs about a manager's own ability and effective management styles. These attitudes and beliefs are manifest in the form of strategies, decisions, communications, and actions. Managers with similar EO levels may differ significantly in the expression and manifestation of their respective EO. Performance may be related to the tendency to act entrepreneurially, but may be more strongly related to the ability to successfully execute the entrepreneurial strategies required to recognize and profitably exploit opportunity.

Another valuable organizational resource is the organizational structure of the university. However, the organizational structure and performance relationship in educational institutions has received inadequate consideration from the researchers in the field. After the establishment of a firm, some employees have to be hired to perform the tasks. This leads to determination of responsibilities among employees and development of coordination mechanisms which are in fact the formation process of the firm structure. The organizational structure primarily focuses on two dimensions: the first dimension is the work division which is the distribution of work tasks and activities and the second dimension is the coordination mechanisms of the firm that is the level of standardization and formalization (Meijaard et al., 2005). The structure of an organization is important for the development and implementation of strategy, division of work and labor, coordination and integration of functions, and flow of information (Chrisman, 1999). It also influences allocation of power and responsibility, formalization and organizational complexity (Miller, 1987).

Organizational structure and its effect on performance are mainly analyzed in organic versus mechanistic structures (Covin & Slevin, 1990). Siegel et al. (1993) found that lean structures were more suitable for high growth firms. Structure of an organization is argued to be a determinant on the strategy of the firm. Mechanistic structures inhibit innovative strategies whereas organic structures enable innovation (Romano, 1990).

7. Conclusion

A model of growth drawing on the resource-based perspective of the firm was developed in this study and was tested empirically with North Cyprus universities' data. The results indicate that the theoretical model matches well with empirical data and that the analytical method advanced here could serve as a meaningful way to develop a more rigorous theoretical model that can be validated across a number of country samples. Marketing, Human, R&D, Organizational resources and accessibility of these resources have been shown to influence positively university growth.

The research on the growth of universities should pay more attention to the resources and capabilities of the universities. Our knowledge about the resources and capabilities of the universities is still limited. In this study, some findings also suggest that resources beneficial to commercial firms do not have impact on the educational institutions. Hence, this study also

proved that commercial firms and educational institutions are different. They have their own dynamics. In order to find these dynamics, the researchers in the field have to reveal the factors that are specific to educational institution concept.

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